M E M O R A N D U M

TO: Shrewsbury Retirement Board

FROM: Joseph E. Connarton, Executive Director

RE: Approval of Appropriation for FY20

DATE: November 26, 2018

This Commission is hereby furnishing you with approval of the FY20 appropriation under the revised funding schedule the Board recently adopted (copy enclosed). The schedule is effective in FY19 (since the amount under the prior schedule was maintained in FY19). This schedule is approved only through FY20, as the System is essentially projected to be fully funded at that point. We will use the results of your January 1, 2019 actuarial valuation to approve the FY21 appropriation.

Although we are approving the FY20 appropriation, we have some concerns with the schedule. These issues were also outlined in our November 13, 2017 approval of the prior schedule.

The proposed schedule shows a significant decrease in the level of funding compared to the prior schedule. The revised schedule shows a decrease in the FY20 appropriation to $5.4 million (from $6.3 million in the prior schedule). The FY21 appropriation is reduced to $521,000. The reduction reflects the expected attainment of full funding in FY20. When a system becomes fully funded, there are still annual normal cost payments (for benefits being accrued in the current year by active members). But attaining fully funded status is no guarantee of maintaining that status. Actuarial and investment losses (reflecting experience worse than anticipated), changes in plan provisions, and/or assumption changes can cause a once fully funded plan to again have unfunded liabilities (and therefore a significant increase in appropriation level). Furthermore, based on investment performance year to date, we expect it is less likely the System will be fully funded by FY20.

As a budgetary matter, we prefer a more gradual approach to reducing appropriation levels as a system nears, and then reaches, full funding. This is the reason we are only approving the schedule through FY20. There is no conservatism in the FY21 reduction and we expect it is unlikely that the 2019 actuarial valuation would support this amount especially with the expected change in at least the mortality assumption (see below). Past experience of several systems that attained full funding has shown us that reducing the appropriation to the level of only normal cost (or less) could require significant increases in funding if the system does not maintain its full funding status. We do not recommend a schedule in which the appropriation reflects only the normal cost unless a system's funded ratio is significantly greater than 100%. We are available to discuss this issue further.

The System used a 7.50% investment return assumption in this valuation, the same as in 2017. Although this assumption is acceptable, we note that we have generally recommended an assumption of between 7.25% and 7.40% for our 2018 local system valuations with the most common recommendation being 7.35%. For comparison, there are currently 45 systems using an assumption of less than 7.50%.

The salary increase assumption of 3.5% is among the lowest in the state. Only 9 systems use an assumption of 3.5% or lower in valuations.

The System used the same fully generational mortality assumption adopted in 2016 and maintained in 2017. That assumption is based on an experience study performed by your actuary. The mortality assumption we use for other local systems is based on our analysis of State retirees and reflects longer life expectancy than the assumption you adopted. We have not performed a recent retiree mortality analysis for local systems to compare our findings with the results of your actuary's study, although a study of retiree mortality is in process. However, based on our recent analysis of retiree mortality for the State Retirement System and results of our local system valuations, we could not justify the mortality assumption used in your valuation. We note that page 3 of the valuation shows a loss of $3.4 million for inactive mortality (and data adjustments). Last year's valuation showed a loss for inactive mortality of $4.4 million. Presuming the bulk of these losses is due to mortality, retirees are living longer than the assumption being used in the valuation. Our understanding is that your actuary will recommend the adoption of the recently released public sector mortality tables for your next valuation. Based on his initial analysis, that assumption change would increase the plan's actuarial liability by more than 5%.

Aside from the potential impact of any other changes, if the 2019 valuation reflects an investment loss (based on performance year to date) and a change in the mortality assumption as described above, we would not expect the plan to be fully funded by FY20. That result could significantly impact the plan's funding schedule by increasing the appropriation in FY21 (and beyond) to a level closer to the FY20 amount and extending the length of the amortization period.

We are available to discuss these issues further. If you have any questions, please contact PERAC's Actuary, Jim Lamenzo, at (617) 666-4446, extension 921.

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Appropriation Forecast

Fiscal Year Ending	Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2019	$25,216,339	$2,221,147	$524,382	$5,768,815	$6,293,197	25.0	92.7
2020	$26,224,993	$2,331,118	$523,122	$4,922,146	$5,445,268	20.8	96.5
2021	$27,273,992	$2,446,333	$520,921	$0	$520,921	1.9	100.0
2022	$28,364,952	$2,567,036	$517,708	$0	$517,708	1.8	100.0
2023	$29,499,550	$2,693,480	$513,404	$0	$513,404	1.7	100.0
2024	$30,679,532	$2,825,933	$507,928	$0	$507,928	1.7	100.0
2025	$31,906,713	$2,964,673	$501,192	$0	$501,192	1.6	100.0
2026	$33,182,982	$3,109,990	$493,104	$0	$493,104	1.5	100.0
2027	$34,510,301	$3,262,189	$483,568	$0	$483,568	1.4	100.0
2028	$35,890,713	$3,421,588	$472,480	$0	$472,480	1.3	100.0
2029	$37,326,342	$3,588,519	$459,730	$0	$459,730	1.2	100.0
2030	$38,819,395	$3,763,330	$445,205	$0	$445,205	1.1	100.0
2031	$40,372,171	$3,946,385	$428,783	$0	$428,783	1.1	100.0
2032	$41,987,058	$4,138,063	$410,334	$0	$410,334	1.0	100.0
2033	$43,666,540	$4,338,760	$389,723	$0	$389,723	0.9	100.0
2034	$45,413,202	$4,548,893	$366,807	$0	$366,807	0.8	100.0
2035	$47,229,730	$4,768,894	$341,434	$0	$341,434	0.7	100.0
2036	$49,118,919	$4,999,217	$313,445	$0	$313,445	0.6	100.0
2037	$51,083,676	$5,240,336	$282,670	$0	$282,670	0.6	100.0
2038	$53,127,023	$5,492,745	$248,931	$0	$248,931	0.5	100.0
2039	$55,252,104	$5,756,963	$212,041	$0	$212,041	0.4	100.0
2040	$57,462,188	$6,033,530	$171,802	$0	$171,802	0.3	100.0
2041	$59,760,676	$6,274,871	$178,674	$0	$178,674	0.3	100.0
2042	$62,151,103	$6,525,866	$185,821	$0	$185,821	0.3	100.0
2043	$64,637,147	$6,786,900	$193,253	$0	$193,253	0.3	100.0
2044	$67,222,633	$7,058,376	$200,983	$0	$200,983	0.3	100.0
2045	$69,911,538	$7,340,711	$209,023	$0	$209,023	0.3	100.0
2046	$72,707,999	$7,634,340	$217,384	$0	$217,384	0.3	100.0
2047	$75,616,319	$7,939,714	$226,079	$0	$226,079	0.3	100.0
2048	$78,640,972	$8,257,302	$235,122	$0	$235,122	0.3	100.0
2049	$81,786,611	$8,587,594	$244,527	$0	$244,527	0.3	100.0
2050	$85,058,076	$8,931,098	$254,308	$0	$254,308	0.3	100.0

* Calendar basis

** Beginning of Fiscal Year